ANNUAL WATER MANAGEMENT PLAN 1994-1995

Arapaho National Wildlife Refuge
Walden, CO

I. General

Arapaho National Wildlife Refuge uses four main sources of water to provide irrigation, maintain pond levels and sustain riparian vegetation for wildlife. These four sources include the Illinois River, Spring Creek, Antelope Creek, and Potter Creek. Fifteen different headgate structures divert water out of the Illinois River into more than 70 miles of primary delivery ditches. This water supplies nearly 70 ponds with over 700 surface acres of water during a normal year. It is also used to flood irrigate 8,000 acres of meadow to maintain and perpetuate quality waterfowl breeding, nesting and brood rearing habitat.

The Illinois River opened March 21st, running approximately 120 cfs. Flows fluctuated between 70 cfs to 115 cfs during April and May resulting in a very low spring run-off. Water levels dropped drastically in mid June with flows varying from 13 cfs to 42 cfs for approximately 30 days. Water flow continued to drop into July with an average flow of eight cfs through the end of August. The Illinois River quit flowing about a mile north of the headquarters in mid July and the east branch of the river, was totally dry into freeze-up. September and October flows remained low averaging 12 cfs until the river iced over in mid November.

We began diverting water in March as ditches and headgates became ice-free, to fill refuge ponds before low water would require irrigation shutdowns. All ponds were filled this spring, but could not be maintained throughout the summer. By late June most ditches were dry or closed due to calls on the river. Refuge ponds slowly lost water with most ponds under half full by fall.

Precipitation in 1994 was 7.79 inches, 1.76 inches below the normal, with snowfall measuring 51.1 inches in Walden. Refuge water conditions in the spring were fairly good since most ponds were full or needed little filling from the previous fall. With a poor run-off and low spring and summer precipitation water conditions drastically declined to near non existent levels in the summer and fall. The outlook for 1995 is poor with precipitation and water levels very low. Snow pack levels are approximately 64 percent of normal for this time of year. If the area continues to receive low amounts of precipitation and the snowpack remains low, the refuge will be very dry come spring. The only hope is that 1995 brings some large snowfalls or at least a wet spring and summer to enhance the refuge wetlands.

II. Purpose and Methods

Spring run-off is diverted from natural water courses into delivery ditches to provide ponds and irrigation systems with water. Approximately 8,000 acres of meadows are irrigated during an average water year to provide quality breeding, nesting, and brooding habitat. Numerous ponds and impoundments are also managed via diverted water each year.

Current water management practices greatly depend on winter snow packs, spring moisture and downstream water demands. However, during normal water years, the following schedule is used to provide general guidance:

April - (spring breakup) Open river headgates as snow pack allows, striving for the earliest flow possible. Drain upstream storage reservoirs (Case #1, #2, #3) on to lower units to initiate open water to attract and hold waterfowl. These reservoirs are then refilled with spring run-off water and held at optimum levels.

May - Initiate meadow irrigation as soon as ditches are ice-free and operable. Perform ditch maintenance as able and needed. Record water flow measurements.

June - Maintain reservoir levels and continue irrigation and maintenance. Record water flow measurements.

July - Consolidate water as necessary to provide brood habitat. Record water flow measurements.

August - Begin repairs on dikes and control structures and any new construction projects. Record water flow measurements. Adjust water to minimize any potential avian botulism outbreaks.

September - Prepare for scheduled winter fill of storage reservoirs as able. Manage water levels to minimize any potential avian botulism outbreaks. Continue work on construction and repair projects.

October - Winterize water system, drain irrigation ditches, "set" water system in preparation for spring run-off. Continue construction/repair work as able.

November - Normal freeze-up period. Pre-snowfall dirt work still possible.

December - March - Normally cold, frozen conditions prevent water management. Nesting structures can be repaired/maintained and water management structures can be built.

6:30

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I. 1994 Water Usage

Water usage is determined primarily by weekly recordings of water flows through Parshall flumes located just downstream from the various headgates or diversion structures in each irrigation ditch system. In instances where measuring devices have not been installed or where regular monitoring is not possible, estimates are made relative to the known water use in other irrigation ditch systems. Table II, reflects the amount of water diverted into the various irrigation systems serving Arapaho National Wildlife Refuge in 1994.

The total of 18,670 acre feet of water diverted in 1994 represents 48% less water than in 1993. Poor spring run-off and low summer rains accounted for this decrease which resulted in poor wetland conditions by the end of the summer. A small amount of water was diverted into the Hubbard #2 ditch in the fall in an effort to give a few ponds a head start in the spring.

IV. Proposed 1995 Water Use

Water use in 1995 will not be substantially different from that planned for previous years. If possible all ponds will be filled as early in the spring to maximize spring run-off use. Optimum water levels will be maintained for as long as possible to encourage waterfowl mating, nesting, and brood rearing.

One of the following general plans will be implemented dependent upon the availability of water in 1995:

Plan A - Average Water Year

1. Refuge ponds will be filled as early as possible to encourage spring migrants to mate and nest on the refuge.

2. Meadow areas will be irrigated by take-outs in the diversion ditches or sub-irrigated by seepage from the ditches.

3. As many ponds as possible will be maintained at optimum levels for as long as possible. If necessary some ponds may be sacrificed for more important brood ponds later in the summer.

4. Following the upstream irrigation season of hay meadows, increased flow in the Illinois River may be used to refill refuge ponds (where necessary) in order to provide fall migrational habitat and reserve water for the following year.

Plan B - Extremely Wet Water Year

1. Marginal meadow areas not normally irrigated will be irrigated to provide additional improved wildlife habitat.

2. Additional water will be circulated through impoundments keeping them fresh, which will aid in the production of emergent and submergent vegetation and encourage invertebrates as sources of food and cover for wildlife.

3. Water will run longer in the season keeping impoundments relatively full at freeze-up. This will help ensure that at least some water will be available the following spring even in the event of a dry year.

4. By running the water longer, many small wetland depressions in the meadows can be maintained as brood-rearing habitat, thus preventing concentrations of broods on a few ponds where they are more susceptible to predation and disease outbreaks such as avian botulism.

Plan C - Extremely Dry Water Year

1. Fill as many ponds as possible to capacity and maintain to provide water for breeding and nesting pairs and cover for broods and molters.

2. Irrigate refuge meadows adjacent to permanent bodies of water.

3. Irrigate refuge meadows further removed from permanent ponds as available water permits.

4. Suspend implementation of drawdowns to conserve as much water for as long as possible.

V. 1993-1997 Planned Drawdown

A new five-year drawdown plan was initiated in 1993 for several of the ponds on the refuge. This plan was updated by reviewing past years, drawdowns, vegetation growth, invertebrate populations, and dike repair needs. Scheduled drawdowns may be canceled or postponed if the prevailing water condition so dictates. Lack of water can effectively result in an unscheduled drawdown for certain ponds and may be used as such even if it does not coincide with the existing plan. Table I.

As we continue to monitor vegetation growth and invertebrate populations within our ponds we will update our drawdown program as necessary. Occasionally water management is dictated by priorities set for rehabilitation of dikes and control structures.

As more rehabilitation is accomplished many of the ponds will take their turn in drawdown status, at least for a short time.

VI. Comments and Problems

The following water management related projects were accomplished in 1994 at Arapaho NWR.

1. Rehabilitation of Eisemann and Old Road pond dikes, water control structures were replaced and the breaches in dikes filled, hopefully for the last time.

2. Six flumes (Home, Hubbard #1, Riddle, Dryer, Oklahoma #2, Midland) were replaced and/or rehabilitated to eliminated leaking by a private contractor.

3. Anderson Drain and Anderson Contour dikes were rehabilitated including several take-outs and a control structure.

4. Numerous ditches on the Hampton and Case tracts were cleaned.

5. Diversion pond was completed, thanks to the dry weather conditions. The dike was extended to its full length and rip-rapped.

6. The leaking Home and Hubbard #2 river headgates were replaced.

7. A take-out was installed in the Caudal ditch (Hubbard-Caudle Ext.) OK to facilitate water flow to 404 pond. A ditch check was installed in the Ward #1 ditch to assist flows through a take-out for S. McCammon pond. ✓

8. Rip-rap was placed on Fox pond dike and the borrow area dike.

The following work, not in priority order, is needed and will be accomplished as manpower and working conditions permit:

1. Construction of new ponds as priorities and working conditions permit.

2. Replace five deteriorating or missing river headgates on the Hill & Crouter, Dryer, Ward #2, Everhard & Baldwin and Ish & Baldwin ditches.

3 Install Parshall flumes in the Ish & Baldwin, Midland (Ross), Antelope, Potter #2, Hubbard #4, and Ward #2 ditches. Also in the Case Reservoirs #1,2,3, State Walden Pipeline, State Walden Reservoirs.

4. Placement of rip-rap on several dikes.

5. Rehabilitate the Burr drain pond dike.

6. Refurbish Hampton #2, Abraham and Rat Ditch dikes.

7. Determine surface acreage and storage capacity for eleven existing ponds and all new ponds.

8. Surveys of impoundment outlets and installation of water level gauges (as directed in Dam Safety Inspections).

9. Rehabilitate dikes and control structures as directed by Dam Safety Inspections (as able with existing funds).

10. Continue ditch clean-outs as necessary (by contract if possible).

11. Measure capacity of Fish Hatchery spring (Potter Creek) to determine amount of water flowing into Potter #2 ditch.

Table I

Pond	Date	Prescription	Status
South McCammon Pond	April 1993	Release water to North McCammon Pond. Keep pond dry through summer refill fall of 1993.	Drawdown was implemented in the spring of 1993, pond was tilled and left dry. Pond will be filled in the spring of 1995.
Rizor Pond	April 1993	Release water to Follett pond. Keep pond dry spring, summer and fall. Fill spring of 1994.	Drawdown was completed fall of 1993. Pond was fill in spring of 1994.
Patten Pond	April 1993	Release water to Eisemann pond. Keep pond dry, filling it the spring of 1994.	Drawdown was completed, filling started in fall of 1993, and was completed spring 1994.
Reservoir #2 Annex Pond	October 1993	Release water to Greasewood pond. Keep pond dry, filling it the spring of 1995.	Drawdown could not be completed as there is no water control structure.
Buddys Pond	October 1993	Release water to Living Room pond. Keep pond dry, filling it the spring of 1995.	Drawdown completed in 1994, pond tilled and started filling in fall 1994. Complete filling in spring of 1995.
Varney Pond	October 1993	Release water to Eisemann pond. Keep pond dry through summer of 1994 and fill the fall of 1994.	Drawdown was completed in 1994. Pond tilled and will be filled in the spring of 1995.
Abraham Pond	October 1994	Release water to Follett pond. Keep pond dry, filling it the spring of 1996.	Drawdown was implemented in the fall of 1994.
Hampton #2 Pond	October 1994	Release water to Potter Creek. Keep pond dry, filling it the spring of 1996.	Drawdown was started in the fall of 1994.
Prairie Dog Pond	October 1995	Release water to Antelope pond. Keep pond dry, filling it the spring of 1997.	On schedule.
Wilson Pond	October 1995	Release water to Avocet pond. Keep pond dry, filling it the spring of 1997.	Drawdown was initiated in the fall of 1994.
125 Pond	October 1996	Release water to Varney pond. Keep pond dry, filling it the spring of 1998.	On schedule.
Follett Pond	October 1996	Release water to Old Road pond. Keep pond dry, filling it the spring of 1998.	Drawdown initiated in fall of 1993, pond tilled and started filling fall 1994. Complete filling in spring of 1995.

POND NAME	POINT OF DIVERSION QUARTER(S) -SEC.-TWN.-RANGE	SURFACE ACRES	AF CAP.	YEAR CONST.	SOURCE	REMARKS
DITCH: ANTELOPE DITCH -- AF AMT DIVERTED 1994: 100 -- MEASUREMENT FLUME: N						
		0.00	0			
	BY DITCH - POND SUBTOTALS:	0.00	0			
DITCH: BOYCE BROTHERS DITCH -- AF AMT DIVERTED 1994: 774 -- MEASUREMENT FLUME: Y						
BROCKER POND, NORTH	NW 3 8N 79W	14.95	15	1980	ILLINOIS RIVER	
	BY DITCH - POND SUBTOTALS:	14.95	15			
DITCH: DRYER DITCH -- AF AMT DIVERTED 1994: 637 -- MEASUREMENT FLUME: Y						
		0.00	0			
	BY DITCH - POND SUBTOTALS:	0.00	0			
DITCH: EVERHARD & BALDWIN -- AF AMT DIVERTED 1994: 3,421 -- MEASUREMENT FLUME: Y						
		0.00	0			
	BY DITCH - POND SUBTOTALS:	0.00	0			
DITCH: HILL & CROUTER DITCH -- AF AMT DIVERTED 1994: 470 -- MEASUREMENT FLUME: Y						
		0.00	0			
	BY DITCH - POND SUBTOTALS:	0.00	0			
DITCH: HOME DITCH #1 -- AF AMT DIVERTED 1994: 659 -- MEASUREMENT FLUME: Y						
HOME POND	NW SW NE 33 9N 79W	27.05	52	1978	ILLINOIS RIVER	
	BY DITCH - POND SUBTOTALS:	27.05	52			

POND NAME	POINT OF DIVERSION QUARTER(S) -SEC.-TWN.-RANGE				SURFACE ACRES	AF CAP.	YEAR CONST.	SOURCE	REMARKS
DITCH: HUBBARD DITCH #1 -- AF AMT DIVERTED 1994: 441 -- MEASUREMENT FLUME: Y									
					0.00	0			
BY DITCH - POND SUBTOTALS:					0.00	0			
DITCH: HUBBARD DITCH #2 -- AF AMT DIVERTED 1994: 0 -- MEASUREMENT FLUME: Y									
BIRDIE POND	SW	20	8N	80W	3.44	9	1976	ILLINOIS RIVER	to #3, #4 & Hub. Caudle
EAGLE POND	NW NW SW	20	8N	80W	7.74	22	1976	ILLINOIS RIVER	to #3, #4 & Hub. Caudle
SOLBERG POND	S1/2 SW	20	8N	79W	8.60	11	1985	ILLINOIS RIVER	to #3, #4 & Hub. Caudle
BY DITCH - POND SUBTOTALS:					19.78	42			
DITCH: HUBBARD DITCH #3 -- AF AMT DIVERTED 1994: 278 -- MEASUREMENT FLUME: Y									
ANTELOPE POND	N1/2 SW	7	8N	80W	22.42	77	1974	ILLINOIS RIVER	* AND HUBBARD #4 thru #2
BUDDIES POND	SE	13	8N	80W	6.93	15	1972	ILLINOIS RIVER	through Hubbard #2
EISEMANN POND	NW SE	18	8N	80W	5.29	15	1986	ILLINOIS RIVER	through Hubbard #2
GOOSE POND	SE	13	8N	80W	15.52	49	NATL	ILLINOIS RIVER	* AND HUBBARD #4/thru #2
LIVING ROOM POND	SE NE SW	13	8N	80W	2.41	6	1972	ILLINOIS RIVER	* AND HUBBARD #4/thru #2
MARSH POND	SE	13	8N	80W	12.58	15	NATL	ILLINOIS RIVER	* AND HUBBARD #4/ thru #2
MUSKRAT POND	NW	7	7N	80W	99.00	390	1985	ILLINOIS RIVER	* AND HUBBARD #4/thru #2
PATTEN POND	SW SE	18	8N	79W	3.30	10	1986	ILLINOIS RIVER	through Hubbard #2
PRAIRIE DOG POND	SW NE SW	18	8N	79W	4.95	18	1986	ILLINOIS RIVER	through Hubbard #2
RAT DITCH POND	NW	20	8N	79W	2.82	0	1987	ILLINOIS RIVER	CAP NOT DET / thru #2
ROADSIDE POND, NORTH	SE SE SE	12	8N	80W	0.00	4	1972	ILLINOIS RIVER	* AND HUBBARD #4/thru #2
ROADSIDE POND, SOUTH	SE NW NE	13	8N	80W	2.42	6	1972	ILLINOIS RIVER	* AND HUBBARD #4/thru #2
BY DITCH - POND SUBTOTALS:					177.64	605			
DITCH: HUBBARD DITCH #4 -- AF AMT DIVERTED 1994: 1,799 -- MEASUREMENT FLUME: N									
#125 POND	NE SE	19	8N	79W	6.62	17	1986	ILLINOIS RIVER	through Hubbard #2
#76 POND	NE NW	13	8N	80W	25.06	61	1976	ILLINOIS RIVER	through Hubbard #2

POND NAME	POINT OF DIVERSION QUARTER(S)	-SEC.	-TWN.	-RANGE	SURFACE ACRES	AF CAP.	YEAR CONST.	SOURCE	REMARKS
ALKALI POND	NE	11	8N	80W	12.79	22	NATL	ILLINOIS RIVER	through Hubbard #2
AVOCET POND	SE	11	8N	80W	8.52	12	NATL	ILLINOIS RIVER	through Hubbard #2
BLUEBILL POND	SE	14	8N	80W	6.22	19	NATL	ILLINOIS RIVER	through Hubbard #2
BREWERS POND	SW NW	14	8N	80W	23.37	60	1978	ILLINOIS RIVER	through Hubbard #2
BULRUSH POND	NW NW	12	8N	80W	9.74	16	1981	ILLINOIS RIVER	through Hubbard #2
CASE CONTOUR, MIDDLE	NW NW	13	8N	80W	1.06	0	1977	ILLINOIS RIVER	CAP NOT DET / thru #2
CASE CONTOUR, NORTH	NW	13	8N	80W	1.35	0	1977	ILLINOIS RIVER	CAP NOT DET / thru #2
CASE CONTOUR, SOUTH	SW NW	13	8N	80W	1.08	0	1977	ILLINOIS RIVER	CAP NOT DET / thru #2
CASE RES. #2 ANNEX POND	NW	13	8N	80W	5.69	13	NATL	ILLINOIS RIVER	through Hubbard #2
CASE RESERVOIR #1	SE SW SE	13	8N	80W	26.40	124	1970	ILLINOIS RIVER	through Hubbard #2
CASE RESERVOIR #2	SW NW	13	8N	80W	28.30	106	1952	ILLINOIS RIVER	through Hubbard #2
CASE RESERVOIR #3	SW NW NW	14	8N	80W	15.13	67	1952	ILLINOIS RIVER	through Hubbard #2
CATTAIL POND	SW SE	12	8N	80W	4.06	9	1980	ILLINOIS RIVER	through Hubbard #2
ELK POND	NW SW	13	8N	80W	34.88	90	1976	ILLINOIS RIVER	through Hubbard #2
GREASEWOOD POND	SW SW	12	8N	80W	4.41	10	1980	ILLINOIS RIVER	through Hubbard #2
HEADWATERS POND	NE SW	24	8N	80W	11.90	0		ILLINOIS RIVER	CAP NOT DETERMINED
HORSESHOE POND	SE NE	15	8N	80W	0.92	2	1975	ILLINOIS RIVER	through Hubbard #2
KITCHEN POND	SW	13	8N	80W	4.07	9	NATL	ILLINOIS RIVER	through Hubbard #2
N. TOUR ROUTE POND	SE	14	8N	80W	0.00	0	1979	ILLINOIS RIVER	CAP NOT DET / thru #2
POTTER CREEK POND	NE SE	12	8N	80W	35.98	111	1974	ILLINOIS RIVER	through Hubbard #2
S. TOUR ROUTE POND	SE	14	8N	80W	0.00	0	1979	ILLINOIS RIVER	CAP NOT DET / thru #2
VARNEY POND	N1/2 SW	19	8N	79W	9.71	21	1986	ILLINOIS RIVER	through Hubbard #2
WILSONS POND	SW SW SW	11	8N	80W	6.75	14	1978	ILLINOIS RIVER	through Hubbard #2
BY DITCH - POND SUBTOTALS:					284.01	783			

DITCH: HUBBARD/CAUDLE EXT. -- AF AMT DIVERTED 1994: 1,150 -- MEASUREMENT FLUME: Y

404 POND	NW NE	18	8N	79W	0.00	0	1992	ILLINOIS RIVER	CAP NOT DETERMINED
ABRAHAM POND	NE	20	8N	79W	6.25	20	1987	ILLINOIS RIVER	through Hubbard #2
DIVERSION POND	SE	20	8N	79W	3.93	0	1987	ILLINOIS RIVER	CAP NOT DET / thru #2
FOLLETT POND	NW	20	8N	79W	2.99	10	1987	ILLINOIS RIVER	through Hubbard #2
HAMPTON #1 POND	SE	5	8N	79W	0.00	0	1990	ILLINOIS RIVER	CAP NOT DET / thru #2
HAMPTON #2 POND	NE SE	5	8N	79W	6.67	22	1977	ILLINOIS RIVER	through Hubbard #2
HAMPTON #3 POND	NW SE	5	8N	79W	7.46	25	1978	ILLINOIS RIVER	through Hubbard #2
OLD ROAD POND	NW	20	8N	79W	0.00	0	1987	ILLINOIS RIVER	CAP NOT DET / thru #2

POND NAME	POINT OF DIVERSION QUARTER(S)	SEC.	TWN.	RANGE	SURFACE ACRES	AF CAP.	YEAR CONST.	SOURCE	REMARKS
RIZOR POND	NE	20	8N	79W	3.51	11	1987	ILLINOIS RIVER	through Hubbard #2
SMITH POND	SW SE NE	20	8N	79W	8.03	12	1981	ILLINOIS RIVER	through Hubbard #2
	BY DITCH - POND SUBTOTALS:				38.84	100			
DITCH: ISH & BALDWIN DITCH -- AF AMT DIVERTED 1994: 0 -- MEASUREMENT FLUME: N									
					0.00	0			
	BY DITCH - POND SUBTOTALS:				0.00	0			
DITCH: MIDLAND-HACKLEY DTCH -- AF AMT DIVERTED 1994: 255 -- MEASUREMENT FLUME: Y									
GERM POND	SW NE	12	7N	80W	7.54	28	1974	ILLINOIS RIVER	
	BY DITCH - POND SUBTOTALS:				7.54	28			
DITCH: MIDLAND-ROSS DITCH -- AF AMT DIVERTED 1994: 501 -- MEASUREMENT FLUME: N									
HACKLEY POND NORTH	SW SW	12	7N	80W	4.30	0		ILLINOIS RIVER	CAP NOT DETERMINED
HACKLEY POND SOUTH	SW SW	12	7N	80W	3.60	0		ILLINOIS RIVER	CAP NOT DETERMINED
RODRIQUEZ POND	NW NE	12	7N	80W	11.07	0		ILLINOIS RIVER	CAP NOT DETERMINED
ROSS POND	SE NE	1	8N	80W	4.37	5	1982	ILLINOIS RIVER	
	BY DITCH - POND SUBTOTALS:				23.34	5			
DITCH: NATL RUNOFF-NO DITCH -- AF AMT DIVERTED 1994: 0 -- MEASUREMENT FLUME: N									
BROCKER POND, SOUTH	NE NW SW	3	8N	79W	0.00	15			Not Yet Constructed
FOX POND	SE NW NE	10	8N	79W	48.00	108	1992	SPRING CREEK	
SPRING CREEK POND	S1/2 NE NE	15	8N	79W	26.15	63	1980	SPRING CREEK	
	BY DITCH - POND SUBTOTALS:				74.15	186			

POND NAME	POINT OF DIVERSION QUARTER(S) -SEC.-TWN.-RANGE				SURFACE ACRES	AF CAP.	YEAR CONST.	SOURCE	REMARKS
DITCH: NORTH PARK DITCH #6 -- AF AMT DIVERTED 1994: 1,581 -- MEASUREMENT FLUME: Y									
					0.00	0			
BY DITCH - POND SUBTOTALS:					0.00	0			
DITCH: OKLAHOMA DITCH #1 -- AF AMT DIVERTED 1994: 1,898 -- MEASUREMENT FLUME: Y									
ALLARD CONTOUR, MIDDLE	S1/2 NW	29	8N	79W	4.03	0	1981	ILLINOIS RIVER	CAPACITY NOT DETERMINED
ALLARD CONTOUR, NORTH	S 1/2	20	8N	79W	2.85	0	1981	ILLINOIS RIVER	CAPACITY NOT DETERMINED
ALLARD CONTOUR, SOUTH	NW	29	8N	79W	4.43	0	1981	ILLINOIS RIVER	CAPACITY NOT DETERMINED
ANDERSON CONTOUR	S1/2	5	7N	79W	9.06	0	NATL	ILLINOIS RIVER	CAPACITY NOT DETERMINED
ANDERSON DRAIN	S1/2	5	7N	79W	14.01	20	NATL	ILLINOIS RIVER	
COYOTE POND	SW	20	8N	80W	1.52	3	1979	ILLINOIS RIVER	
FISHERMAN'S PARKING POND	NE	5	7N	79W	0.00	0	NATL	ILLINOIS RIVER	CAPACITY NOT DETERMINED
POTHOLE POND	NW	5	8N	79W	3.40	7	1970	ILLINOIS RIVER	
BY DITCH - POND SUBTOTALS:					39.30	30			
DITCH: OKLAHOMA DITCH #2 -- AF AMT DIVERTED 1994: 1,062 -- MEASUREMENT FLUME: Y									
ALLARD POND, NORTH	NW SW NE	5	8N	79W	13.98	38	1978	ILLINOIS RIVER	
ALLARD POND, SOUTH	SW NE SE	5	8N	79W	15.16	48	1978	ILLINOIS RIVER	
BY DITCH - POND SUBTOTALS:					29.14	86			
DITCH: POTTER DITCH #2 -- AF AMT DIVERTED 1994: 75 -- MEASUREMENT FLUME: N									
FISH HATCHERY POND, EAST	NW SE	15	8N	80W	2.19	8	1950	FISH HATCHERY SPRING	
FISH HATCHERY POND, WEST	N1/2 S1/2	15	8N	80W	0.93	2	1950	FISH HATCHERY SPRING	
BY DITCH - POND SUBTOTALS:					3.12	10			

POND NAME	POINT OF DIVERSION QUARTER(S) -SEC.-TWN.-RANGE			SURFACE ACRES	AF CAP.	YEAR CONST.	SOURCE	REMARKS
DITCH: RIDDLE DITCH -- AF AMT DIVERTED 1994: 317 -- MEASUREMENT FLUME: Y								
				0.00	0			
BY DITCH - POND SUBTOTALS:				0.00	0			
DITCH: STATE WALDEN PIPELNE -- AF AMT DIVERTED 1994: 260 -- MEASUREMENT FLUME: N								
				0.00	0			
BY DITCH - POND SUBTOTALS:				0.00	0			
DITCH: STATE WALDEN RES. -- AF AMT DIVERTED 1994: 20 -- MEASUREMENT FLUME: N								
				0.00	0			
BY DITCH - POND SUBTOTALS:				0.00	0			
DITCH: WARD DITCH #1 -- AF AMT DIVERTED 1994: 2,019 -- MEASUREMENT FLUME: Y								
MCCAMMON POND, NORTH	NW NE NE	21	8N 79W	3.52	8	1972	ILLINOIS RIVER	
MCCAMMON POND, SOUTH	SE NW NE	21	8N 79W	13.68	41	1978	ILLINOIS RIVER	
WILLFORD POND	NW NE NW	15	8N 79W	15.55	62	1980	ILLINOIS RIVER	
BY DITCH - POND SUBTOTALS:				32.75	111			
DITCH: WARD DITCH #2 -- AF AMT DIVERTED 1994: 340 -- MEASUREMENT FLUME: N								
				0.00	0			
BY DITCH - POND SUBTOTALS:				0.00	0			
DITCH: WARD DITCH #3 -- AF AMT DIVERTED 1994: 613 -- MEASUREMENT FLUME: Y								
SCHOOL POND, NORTH	S1/2 NW SE	16	8N 79W	11.13	30	1978	ILLINOIS RIVER	* AND HUBBARD DITCH #1

POND NAME	POINT OF DIVERSION QUARTER(S) -SEC.-TWN.-RANGE	SURFACE ACRES	AF CAP.	YEAR CONST.	SOURCE	REMARKS
SCHOOL POND, SOUTH	SW SW SE 16 - 8N 79W	10.65	27	1978	ILLINOIS RIVER	* AND HUBBARD DITCH #1
BY DITCH - POND SUBTOTALS:		21.78	57			

GRAND TOTALS -

POND DIVERSIONS: 793 SA 2,110 - AF PONDS CAPACITY

DITCH DIVERSIONS: 18,670 AF 16,560 - AF MEADOW IRRIGATION